Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A process for identifying inhibitors of a eukaryotic potassium channel, ~~in which~~

a) providing a mutated *S. cerevisiae* cell ~~is used~~ which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1 and which is not complemented by an expressed HERG1;

b) treating said mutant with a eukaryotic potassium channel aside from HERG1 wherein said eukaryotic potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;

c) incubating the ~~mutated~~ *S. cerevisiae* cell expressing the eukaryotic potassium channel ~~is incubated~~ together with a substance to be tested; and

d) determining the effect of the substance to be tested on the eukaryotic potassium channel ~~is determined~~, wherein a decrease in the transport of potassium across the eukaryotic potassium channel indicates that the substance is an inhibitor of the eukaryotic potassium channel.

Claim 2 (previously presented): The process as claimed in claim 1, wherein the genes TRK1, TRK2 and TOK1 are switched off in the mutated *S. cerevisiae* cell (Δtrk1, Δtrk2, Δtok1).

Claim 3 (previously presented): The process as claimed in claim 1, wherein the eukaryotic potassium channel is a human potassium channel.

Claim 4 (currently amended): The process as claimed in claim 1, wherein the eukaryotic potassium channel is ~~HERG1,~~ Kv1.5 or gpIRK1.

Claim 5 (previously presented): The process as claimed in claim 4, wherein the eukaryotic potassium channel is mutated.

Claim 6 (previously presented): The process as claimed in claim 2, wherein the eukaryotic potassium channel is present in a yeast expression plasmid.

Claim 7 (previously presented): The process as claimed in claim 2, wherein the mutated *S. cerevisiae* cell expresses constitutively a growth reporter.

Claim 8 (previously presented): The process as claimed in claim 7, wherein the substance to be tested, which has an effect on the eukaryotic potassium channel, inhibits the growth of the mutated *S. cerevisiae* cell.

Claim 9 (previously presented): The process as claimed in claim 7, wherein the effect of the substance to be tested on the eukaryotic potassium channel is determined by measuring the cell count of the mutated *S. cerevisiae* cells.

Claim 10 (previously presented): The process as claimed in claim 9, wherein the cell count is determined via the fluorescence of luminescence of the constitutively expressed growth reporter.

Claims 11-19 (canceled)

Claim 20 (currently amended): A process of identifying activators of a eukaryotic potassium channel, ~~in which~~

a) providing a mutated *S. cerevisiae* cell ~~is used~~ which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1 and which is not complemented by an expressed HERG1;

b) reacting said mutant with a ~~A~~ eukaryotic potassium channel aside from HERG1 wherein said eukaryotic potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;

c) incubating the ~~mutated~~ *S. cerevisiae* cell expressing the eukaryotic potassium channel ~~is incubated~~ together with a substance to be tested; and

d) determining the effect of the substance to be tested on the eukaryotic potassium channel ~~is determined~~, wherein an increase in the transport of potassium across the eukaryotic potassium channel indicates that the substance is an activator of the eukaryotic potassium channel.

Claim 21 (currently amended): A process of identifying activators of a eukaryotic potassium channel, ~~in which~~

a) providing a mutated *S. cerevisiae* cell ~~is used~~ which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1 and which is not complemented by an expressed HERG1;

b) reacting said mutant with a ~~A~~ eukaryotic potassium channel aside from HERG1 wherein said eukaryotic potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;

c) incubating the mutated *S. cerevisiae* cell expressing the eukaryotic potassium channel ~~is incubated~~ together with a substance to be tested in the presence of an inhibitor of the eukaryotic potassium channel; and

d) determining the effect of the substance to be tested on the eukaryotic potassium channel ~~is determined~~ wherein an increase in the transport of potassium across the eukaryotic potassium channel indicates that the substance is an activator of the eukaryotic potassium channel.

Claims 22-24 (canceled)

Claim 25 (previously presented): The process as claimed in claim 3, wherein the eukaryotic potassium channel is a Kir2.1 or IRK1.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A process for identifying inhibitors of a eukaryotic potassium channel, ~~in which~~

a) providing a mutated *S. cerevisiae* cell ~~is used~~ which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1 and which is not complemented by an expressed HERG1;

b) treating said mutant with a eukaryotic potassium channel aside from HERG1 wherein said eukaryotic potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;

c) incubating the ~~mutated~~ *S. cerevisiae* cell expressing the eukaryotic potassium channel ~~is incubated~~ together with a substance to be tested; and

d) determining the effect of the substance to be tested on the eukaryotic potassium channel ~~is determined~~, wherein a decrease in the transport of potassium across the eukaryotic potassium channel indicates that the substance is an inhibitor of the eukaryotic potassium channel.

Claim 2 (previously presented): The process as claimed in claim 1, wherein the genes TRK1, TRK2 and TOK1 are switched off in the mutated *S. cerevisiae* cell (Δtrk1, Δtrk2, Δtok1).

Claim 3 (previously presented): The process as claimed in claim 1, wherein the eukaryotic potassium channel is a human potassium channel.

Claim 4 (currently amended): The process as claimed in claim 1, wherein the eukaryotic potassium channel is ~~HERG1,~~ Kv1.5 or gpIRK1.

Claim 5 (previously presented): The process as claimed in claim 4, wherein the eukaryotic potassium channel is mutated.

Claim 6 (previously presented): The process as claimed in claim 2, wherein the eukaryotic potassium channel is present in a yeast expression plasmid.

Claim 7 (previously presented): The process as claimed in claim 2, wherein the mutated *S. cerevisiae* cell expresses constitutively a growth reporter.

Claim 8 (previously presented): The process as claimed in claim 7, wherein the substance to be tested, which has an effect on the eukaryotic potassium channel, inhibits the growth of the mutated *S. cerevisiae* cell.

Claim 9 (previously presented): The process as claimed in claim 7, wherein the effect of the substance to be tested on the eukaryotic potassium channel is determined by measuring the cell count of the mutated *S. cerevisiae* cells.

Claim 10 (previously presented): The process as claimed in claim 9, wherein the cell count is determined via the fluorescence of luminescence of the constitutively expressed growth reporter.

Claims 11-19 (canceled)

Claim 20 (currently amended): A process of identifying activators of a eukaryotic potassium channel, ~~in which~~

a) providing a mutated *S. cerevisiae* cell ~~is used~~ which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1 and which is not complemented by an expressed HERG1;

b) reacting said mutant with a ~~A~~ eukaryotic potassium channel aside from HERG1 wherein said eukaryotic potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;

c) incubating the ~~mutated~~ *S. cerevisiae* cell expressing the eukaryotic potassium channel ~~is incubated~~ together with a substance to be tested; and

d) determining the effect of the substance to be tested on the eukaryotic potassium channel ~~is determined~~, wherein an increase in the transport of potassium across the eukaryotic potassium channel indicates that the substance is an activator of the eukaryotic potassium channel.

Claim 21 (currently amended): A process of identifying activators of a eukaryotic potassium channel, ~~in which~~

a) providing a mutated *S. cerevisiae* cell ~~is used~~ which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1 and which is not complemented by an expressed HERG1;

b) reacting said mutant with a ~~A~~ eukaryotic potassium channel aside from HERG1 wherein said eukaryotic potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;

c) incubating the mutated *S. cerevisiae* cell expressing the eukaryotic potassium channel ~~is incubated~~ together with a substance to be tested in the presence of an inhibitor of the eukaryotic potassium channel; and

d) determining the effect of the substance to be tested on the eukaryotic potassium channel ~~is determined~~ wherein an increase in the transport of potassium across the eukaryotic potassium channel indicates that the substance is an activator of the eukaryotic potassium channel.

Claims 22-24 (canceled)

Claim 25 (previously presented): The process as claimed in claim 3, wherein the eukaryotic potassium channel is a Kir2.1 or IRK1.